American River Basin

Attachment 11: Program Preferences

Overview of Program Preferences

In addressing local and regional water management needs, the American River Basin (ARB) Integrated Regional Water Management Plan (IRWMP) has the potential to benefit not only the ARB region but also regions upstream and downstream, including the headwaters of the American and Cosumnes Rivers, the San Francisco-San Joaquin Bay-Delta (Bay-Delta), and water users throughout the state. Consequently, the ARB is committed to partnering with the California Department of Water Resources (DWR) to balance the need to establish drinking water sources that are both sustainable and reliable with the need to protect communities and ecosystems within and outside the ARB region. This attachment demonstrates how this ARB Proposition 84 Integrated Regional Water Management Implementation Grant Proposal assists in meeting the Program Preferences; this information is summarized in Table 1 and Table 2. Table 1 cross-references the fifteen projects contained in this Proposal with the Program Preferences presented in the *Proposition 84 & Proposition 1E IRWM Guidelines* (Guidelines, DWR, August 2010) and indicates the overall degree of certainty that each Program Preference will be met along with the breadth and magnitude to which each will be met. Table 2 provides an additional level of detail by cross-referencing the projects with the specific statewide priorities they address.

Program Preferences

This attachment details how the ARB Integrated Regional Water Management Implementation Grant Proposal meets each of the Program Preferences. The discussion includes an analysis of how the proposal as a whole meets each Program Preference as well as details of how specific benefits of the individual projects within the proposal address the Program Preferences.

Include regional projects or programs

The ARB IRWMP is, by definition, a regional plan. As explained in more detail of Attachment 1 of this proposal, the projects presented in that Plan and in this grant proposal were identified through extensive stakeholder outreach and were selected based on key factors such as: distributing funds across a broad geographic area; benefiting a diverse set of IRWM objectives; distributing funds to a broad group of stakeholders; and meeting DWR priorities as outlined in their *Proposal Solicitation Package (PSP), Integrated Regional Water Management, Project 84, Implementation Round 1* (August 2010). This proposal represents the most significant effort to date in the ARB IRWM region to ensure inclusion of regional projects, and can likely serve as a model for other IRWM regions throughout the State. Therefore, there is a **High Degree of Certainty** that each project will provide a **Regional** benefit.

Effectively integrate water management programs and projects within a hydrologic region

The ARB region encompasses a contiguous urban, suburban, and rural area covering more than 1,200 square miles and including 60% of the population of the Sacramento River hydrologic region. Prior to the preparation of the ARB IRWMP, planning efforts in the ARB had generally been split into three sub-areas with distinct geopolitical issues – north of the American River in Sacramento and Placer Counties; south of the American River and north of the Cosumnes River in Sacramento and El Dorado Counties; and south of the Cosumnes River in Sacramento County. The ARB IRWMP integrated the water management efforts of stakeholders across the entire ARB region, which is identified in the California Water Plan as an ecosystem with valuable ecologic processes and environmental resources. DWR recognized the ARB region as an appropriate planning area through an unconditional acceptance in the RAP process.

Table 1 identifies the five projects that directly demonstrate multi-stakeholder regional cooperation and sharing of resources to achieve multiple benefits. Overall, there is a **High Degree of Certainty** that this Program Preference will be addressed at the **Regional** level.

Effectively resolve significant water-related conflicts within or between regions

Regional water management conflicts can arise due to differences in stakeholders' goals and values and the perceived priority of proposed projects and programs. Minimizing and resolving differences before they propagate into large-scale conflicts has been the region's approach since the inception of the Sacramento Water Forum in the early 1990's, and was integral to the development of the ARB IRWMP. A majority of the projects in this proposal implement elements of the Water Forum Agreement (described in Attachment 3), which is one of the most significant and durable resolutions to water-related conflict developed by local stakeholders in the history of the State.

The ARB IRWMP planning process itself assures a **High Degree of Certainty** of resolving water management strategy conflicts within the Region. Furthermore, this proposal includes six conjunctive use projects, four projects with water efficiency improvements, and a water recycling project; together these projects provide a **High Degree of Certainty** of reducing **Regional** conflict over water supplies for all uses by enhancing regional water supply reliability and by promoting coordinated water planning. In addition to the water supply related projects above, the Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project is a habitat improvement project identified in the habitat management element of the Water Forum Agreement that helps resolve conflict between water supply and the environment on the American River.

In addition to reducing intra-regional conflicts, this proposal will also help to reduce inter-regional and statewide conflicts. The conjunctive use, water efficiency and water recycling projects referred to above will, either through direct design or as an indirect benefit, reduce the demand for surface water diversions in dry years, thereby helping to sustain environmental flows in the Bay-Delta. These projects, similar to past efforts in the region, may also provide the opportunity for transfers to water-short regions of the state. The Bay-Delta is not only a neighboring region to the ARB, but also a state ecologic treasure and the hub of the statewide water system. The water supply projects in this proposal provide a **Moderate Degree of Certainty** of ameliorating **Statewide** conflict concerning Bay-Delta water usage.

Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program

While 2009 legislation changed Delta governance, the critical needs of the Delta remain. The ARB Region, within and immediately upstream of the Delta, is uniquely situated to contribute to CALFED objectives. Each of the projects in this proposal contributes to the attainment of at least one CALFED objective, as shown in Table 1 and described below. Collectively, the proposal has a **High Degree of Certainty** of contributing to the attainment of the CALFED objectives for the **State**.

Improve Water Supply Reliability

- **City of Roseville ASR Program – Phase 2**, **E.A. Fairbairn Groundwater Well Project**, **Shasta Park Reservoir and Well Project**, **North Antelope Booster Pump Station Project**, **Coyle Avenue and Roseview Pump Stations and Treatment Systems Project**, and **OHWD / Rancho Murieta Groundwater Recharge Project**: These projects comprise an expanded conjunctive use program for a region that is dependent on the Bay-Delta watershed to meet water demands. By decreasing surface water demands during dry years, implementation of these projects has a **High Degree of Certainty** of improving regional water supply reliability and supporting additional flows that will benefit the environment of the Delta.
- **Antelope Creek Water Efficiency and Flood Control Project**: This project will minimize water conveyance losses in the Dry Creek Watershed, upstream of the Bay-Delta. This project has a **Low Degree of Certainty** of supporting CALFED's Water Supply Reliability Program.
- **Regional Water Meter Retrofit Acceleration Project** and **Regional Indoor and Outdoor Water Efficiency Project**: These water demand management projects will lead to regional water conservation that has a **High Degree of Certainty** of supporting the Water Use Efficiency element of CALFED's Water Supply Reliability Program.
- **Sacramento Regional County Sanitation District (SRCSD) / Sacramento Power Authority (SPA) Recycled Water Project**: This project, which increases recycled water use by approximately 1,000 acre-feet

per year (AFY), has a **High Degree of Certainty** of supporting the Water Use Efficiency element of CALFED's Water Supply Reliability Program.

- **Willow Hill Pipeline Rehabilitation Project**: The main goal of this project is to reduce 1,100 AFY of unaccounted water losses through optimization of the City of Folsom's water distribution system. This project offsets the need for new diversions from the American River, a tributary to the Bay-Delta. It has a **High Degree of Certainty** of supporting the Water Use Efficiency element of CALFED's Water Supply Reliability Program.

Improve Water Quality for Beneficial Uses

- **Secret Ravine Fish Passage Improvement Project**: This project helps to reduce sedimentation by eliminating constrictions to channel flow that increase scouring forces on the stream's bed and banks which, in turn, can cause the channel to become unstable. The project has a **Low Degree of Certainty** of improving downstream water quality in the Bay-Delta.
- **Antelope Creek Water Efficiency and Flood Control Project**: One of the goals of this project is to eliminate or reduce the amount of sediment that may enter natural water ways from the Antelope and Caperton canals. The energy dissipaters that will be installed to capture sediment at the canal release points have a **Low Degree of Certainty** of improving downstream water quality in the Bay-Delta.
- **SRCSD / SPA Recycled Water Project**: This project replaces potable water currently being consumed for non-potable use with recycled water meeting Title 22 requirements for unrestricted use of recycled water. By freeing up high quality treated surface water from the Delta watershed for potable consumption and redirecting wastewater effluent from the Sacramento River towards a beneficial use, this project has a **High Degree of Certainty** of supporting CALFED's Water Quality Program.
- **Sleepy Hollow Detention Basin Retrofit Project**: The proposed project includes integrated wetlands that will increase nutrient uptake of first-flush runoff storms pollutants through natural biological processes. The treated stormwater runoff will be intercepted by dry-wells for percolation into the groundwater system or shall be discharged into the existing Laguna Creek Tributary; in either scenario this project provides a **High Degree of Certainty** of supporting CALFED's Water Quality Program.

Improve Bay-Delta Ecosystem

- **Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project**: This project increases the frequency of flooded habitat available for fish in the American and Sacramento Rivers and improves riparian habitat for birds and other wildlife species. It has a **High Degree of Certainty** of supporting CALFED's Ecosystem Restoration Program.
- **Lower Cosumnes River Floodplain Restoration Project**: The ecosystem benefits of this project include replenishment of nutrients into the riverine ecosystem, restoration of fish habitat, improvements to endangered species habitat, and protection of rare riparian forest habitat in the Delta. This project has a **High Degree of Certainty** of supporting CALFED's Ecosystem Restoration Program.
- **OHWD/Rancho Murieta Groundwater Recharge Project**: This project will increase groundwater levels and move towards the reconnection of the water table with the Cosumnes River base flow, which is necessary to establish and maintain fall river flows for salmon migration. While only a first step, this project has a **High Degree of Certainty** of contributing to the groundwater-surface water reconnection in support of CALFED's Ecosystem Restoration Program.
- **Sleepy Hollow Detention Basin Retrofit Project**: The multi-functional basin that will result from this project will support endangered/threatened species such as giant garter snake, Valley Elderberry Longhorn Beetle and burrowing owls. The project has a **Moderate Degree of Certainty** of providing endangered/threatened species habitat in support of CALFED's Ecosystem Restoration Program.

Delta Levee Integrity

- **Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project** and **Lower Cosumnes River Floodplain Restoration Project**: While primarily designed for habitat enhancement, by reducing peak flood flows, these projects have a **Low Degree of Certainty** of reducing impacts on levees in the Bay-Delta.

Address critical water supply or water quality needs of disadvantaged communities

As discussed in Attachment 12 of this proposal, DACs are largely interspersed throughout the service areas of water suppliers in the region, and have few unmet water supply or quality needs. In general, meeting the regional needs through this proposal will provide overall benefits to the DACs in the region. However, this proposal does include two projects that will directly benefit areas identified as DACs.

- **Shasta Park Reservoir and Well Project**: This project will correct deficiencies (specifically, low pressures and reduced emergency and fire suppression water supplies) affecting DACs in the southeast portion of the City of Sacramento. It has a **High Degree of Certainty** to improve **Local** water supply reliability for DACs.
- **Regional Indoor and Outdoor Water Efficiency Project**: This project will provide no-cost water conservation retrofits to a targeted 825 disadvantaged households, a group that is often unable to afford the upfront capital needed to participate in conservation rebate programs. It has a **High Degree of Certainty** to improve water management and reduce customer costs for DACs **Regionally**.

Additional discussion of DAC assistance is provided in Attachment 12.

Effectively integrate water management with land use planning

Water resource planning efforts in the ARB take into consideration land use plans identified in the General Plans for each city/county. Land use planning projections provide the basis for establishing water supply projections and identifying habitat areas that will need to be protected against impacts associated with urban development. The ARB has created an integrated approach to land use planning as part of a regional water supply and environmental protection program through the Water Forum Agreement (Agreement). The Agreement specifies how much water each of the area's water purveyors can use (depending on hydrologic conditions) from the American River and each of the three groundwater basins in Sacramento County through 2030, and it is the intent of signatories to the Agreement that land use decisions be consistent with these negotiated supplies. All of the projects in this proposal conform to the Agreement, demonstrating a **High Degree of Certainty** that this Program Preference has been at the **Regional** level.

Three of the projects in this proposal support integration of water management with land use planning that is beyond the scope of the Agreement.

- **Antelope Creek Water Efficiency and Flood Control Project**: Land use projections estimate that at full build-out of the Dry Creek Watershed, the 100-year peak flow rate will increase by 826 cubic feet per second (cfs) at critically flood-impacted areas of downtown Roseville. This project has the ability to mitigate over 50% of the projected flow increase, demonstrating a **High Degree of Certainty** that the **Regional** integration of water management strategies with land use planning will be effective.
- **SRCSD / SPA Recycled Water Project**: Several local land use authorities within the SRCSD service area require the installation of purple pipe, to distribute recycled water, as new developments are built. This project will construct a recycled water transmission main along an alignment that has the potential to serve future development, offering a **Moderate Degree of Certainty** that the water system improvements being made now will meet future **Local** land use requirements.
- **Sleepy Hollow Detention Basin Retrofit Project**: The parcel that contains the Sleepy Hollow detention basin has been given a greenbelt land use designation. This project will maintain the current zoning designation while transforming the basin into a multi-functional water resource feature. The project has a **High Degree of Certainty** of effectively integrating water management with **Local** land use planning.

Address Statewide priorities

The Guidelines identify eight statewide priorities specific to the IRWM Grant Program. As illustrated in Table 2, each of the projects in this proposal embodies at least one of these Statewide priorities. Together the projects have a **High Degree of Certainty** of addressing Statewide priorities at **Regional** and **Local** levels.

Drought Preparedness

Drought preparedness is a major strength of this proposal. The proposal will greatly expand conjunctive use facilities, allowing water purveyors throughout the region flexibility to adjust the source of their supplies to varying hydrologic conditions. In addition, water efficiency projects will reduce per capita water use and free up supplies, and the recycled water project will provide additional firm water that can be added to the mix of regional supplies. Together, these projects provide a system elasticity that ensures that all regional purveyors are capable of meeting current demands, considers and plans for future demand growth and drought, promotes regional cooperation and sharing of resources, provides for adaptive management of supplies, and protects environmental resources by ensuring necessary water supplies for local rivers. The flexibility added to the regional water supply system also provides future opportunity to assist other parts of the state during drought conditions.

- **City of Roseville ASR Program – Phase 2**: This conjunctive use project provides for the injection and extraction of an annual average of 480 AFY into and out of the groundwater basin. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **E.A. Fairbairn Groundwater Well Project**: This conjunctive use project will produce between 337 to 2,250 AFY, depending on hydrologic conditions, to supplement regional water supplies. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **Shasta Park Reservoir and Well Project**: This conjunctive use project will produce between 337 to 2,250 AFY, depending on hydrologic conditions, to supplement regional water diversions. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **Antelope Creek Water Efficiency and Flood Control Project**: The water efficiency component of this project is estimated to conserve 80 to 125 AFY of raw water currently lost in transmission. It has a **High Degree of Certainty** of increasing **Local** reliability during water shortages.
- **Regional Water Meter Retrofit Acceleration Project**: This water demand management project is estimated to reduce water consumption by 126 AFY. It has a **High Degree of Certainty** of contributing to **Regional** water conservation, which will free up water supplies and thereby improve reliability during water shortages.
- **Regional Indoor and Outdoor Water Efficiency Project**: This water efficiencyproject is estimated to reduce water consumption by 11,882 AF over the life of the project. It has a **High Degree of Certainty** of improving **Regional** water efficiency, thereby improving reliability during water shortages.
- **SRCSD / SPA Recycled Water Project**: This water recycling project will offset approximately 1,000 AFY of potable water use and provide infrastructure for future recycled water use. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **North Antelope Booster Pump Station Project**: This conjunctive use project can provide up to 6,800 AFY of banked groundwater from the Sacramento Suburban Water District to other users in the region during dry years or for emergency purposes. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **Coyle Avenue and Roseview Pump Stations and Treatment Systems Project**: This conjunctive use project provides for extraction of an additional 5,750 AFY from the groundwater basin when needed. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.
- **Willow Hill Pipeline Rehabilitation Project**: This water efficiency project will conserve 1,100 AFY of water currently lost in the City of Folsom's Willow Hill distribution system. It has a **High Degree of Certainty** of increasing **Local** reliability during water shortages.
- **OHWD / Rancho Murieta Groundwater Recharge Project**: This conjunctive use project that will provide up to 4,000 AFY of available surface water from the Rancho Murieta CSD to a groundwater recharge basin in the Omochumne-Hartnell Water District. It has a **High Degree of Certainty** of contributing to **Regional** sustainable water supply and reliability during water shortages.

Use and Reuse Water More Efficiently

- **Antelope Creek Water Efficiency and Flood Control Project**: This project will improve the efficiency of raw water transmissions in the Antelope and Caperton Canals, reducing transmission losses between 80 and 125 AFY. It has a **High Degree of Certainty** of conserving **Local** water supplies.
- **Regional Water Meter Retrofit Acceleration Project**: The accelerated installation of 840 residential water meters will conserve an estimated 126 AFY. This project has a **High Degree of Certainty** of increasing **Regional** urban water use efficiency.
- **Regional Indoor and Outdoor Water Efficiency Project**: This project will implement interior water conservation retrofits, exterior water use surveys, irrigation upgrade incentives and water use budgets for landscape customers saving an average of 385 AFY over its 25-year life and has a **High Degree of Certainty** of increasing **Regional** water use efficiency.
- **SRCSD / SPA Recycled Water Project**: This recycled water project has a **High Degree of Certainty** of increasing water use efficiency through recycling of 1,000 AFY.
- **Willow Hill Pipeline Rehabilitation Project**: This project will improve the efficiency of the Willow Hill distribution system, reducing distribution losses of 1,100 AFY. It has a **High Degree of Certainty** of conserving **Local** water supplies.
- **Sleepy Hollow Detention Basin Retrofit Project**: This project will transform the Sleepy Hollow detention basin into a multi-functional basin. It has a **High Degree of Certainty** of enhancing the **Local** capture and treatment of urban stormwater runoff through natural wetland treatment and using the runoff to recharge an estimated 50 AFY into the groundwater basin.

Climate Change Response Actions

In aggregate, this proposal has a **High Degree of Certainty** of addressing **Regional** adaptation to climate change by advancing and expanding conjunctive management, using and reusing water more efficiently, and establishing migration corridors to reintroduce anadromous fish populations to upper watersheds. For details of the specific benefits of each project, refer to the discussions relating to the Statewide priorities of Drought Preparedness, Use and Reuse Water More Efficiently and Expand Environmental Stewardship.

Additionally, the water use efficiency projects offer a **High Degree of Certainty** of reducing **Local** energy consumption through reduced water treatment, water distribution and wastewater treatment energy demands. For quantification of the expected energy reduction, refer to Attachments 3 and 8.

Expand Environmental Stewardship

- **City of Roseville ASR Program – Phase 2**, **E.A. Fairbairn Groundwater Well Project**, **Shasta Park Reservoir and Well Project**, **North Antelope Booster Pump Station Project, Coyle Avenue and Roseview Pump Stations and Treatment Systems Project**, and **OHWD / Rancho Murieta Groundwater Recharge Project**: These conjunctive use projects are designed with consideration of the water needs of the river ecosystems. By sustaining environmental flows in the local rivers, and thereby in the downstream Bay-Delta ecosystem, these projects have a **High Degree of Certainty** of expanding **Regional** environmental stewardship.
- **Regional Water Meter Retrofit Acceleration Project** and **Regional Indoor and Outdoor Water Efficiency Project**: The water conserved by these two projects will help water purveyors meet commitments to provide in-stream flows. In addition, water conserved outdoors will reduce runoff of fertilizer and pesticides to waterways and reduce the amount of green waste generated. These projects have a **High Degree of Certainty** of expanding **Regional** environmental stewardship.
- **Secret Ravine Fish Passage Improvement Project**: This project will expand anadromous fish habitat, restore floodplain functions and improve instream functions by removing fish passage barriers and reconnecting the stream channel with the adjacent floodplain. It will also promote public involvement in environmental stewardship through trail improvements that will encourage the public to visit and will educate those visitors about environmental water needs. This has a **High Degree of Certainty** of improving, expanding and promoting **Local** environmental stewardship. Because removal of downstream barriers is critical to expanding

the fishery in upstream areas, the project has a **Moderate Degree of Certainty** of improving, expanding and promoting **Regional** environmental stewardship

- **Antelope Creek Water Efficiency and Flood Control Project**: This project includes specific habitat enhancements for fisheries, removal of invasive plants and replanting with natives, and bank re-contouring to ensure overbank flows that sustain the floodplain ecosystem. It has a **High Degree of Certainty** of enhancing the **Local** riverine and floodplain ecosystems.
- **SRCSD / SPA Recycled Water Project**: By reducing the amount of effluent discharged into the Sacramento River, this project has a **High Degree of Certainty** of enhancing the **Regional** environment.
- **Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project**: This project will increase the frequency of flooded habitat available for fish in the American and Sacramento Rivers and enhance riparian and upland habitat for birds and other wildlife species. As a priority element of habitat improvement of the American River Parkway, it has a **High Degree of Certainty** of improving the **Regional** ecosystem.
- **Lower Cosumnes River Floodplain Restoration Project**: This project, which will restore historic floodplain connectivity to the Cosumnes River, will provide educational and volunteer restoration opportunities through planting of valley oak and other riparian vegetation. Because of the regional significance of the Cosumnes River preserve and other riparian lands, the project has a **High Degree of Certainty** of expanding **Regional** environmental stewardship.
- **Sleepy Hollow Detention Basin Retrofit Project**: This project aims to create improved flood management ecosystems around the Sleepy Hollow flood control basin that will serve as template for future development. It will also serve as an educational site for students at five schools within a two-mile radius. It has a **High Degree of Certainty** of expanding **Local** environmental stewardship. To the extent this project will serve as a model for future stormwater management, it also has the potential of expanding **Regional** environmental stewardship.

Practice Integrated Flood Management

- **Secret Ravine Fish Passage Improvement Project**: While the main objective of this project is to remove barriers to fish passage, it also provides for reconnection of Secret Ravine with the adjacent floodplain, which provides a **High Degree of Certainty** of restoring multiple **Local** floodplain functions. It will improve flood protection through overbank flows into open space areas rather than into developed areas, allow for greater infiltration of flood waters and stormwater runoff within the open space, and increase the stability of the stream channel through deposition of sediment and debris in the floodplain.
- **Antelope Creek Water Efficiency and Flood Control Project**: This project has a **High Degree of Certainty** of providing multiple benefits through **Regional** integrated flood management. The project is the highest priority project identified in the *Dry Creek Watershed Flood Control Study* due to its ability to substantially reduce flows at critically flood impacted locations. It will also improve an existing migration corridor for salmon and steelhead and enhance natural treatment of temporarily-stored flood waters in the floodplain. Two automated ALERT-type stream level and precipitation gauges to be installed upstream and downstream of the project site will increase the data available to flood engineers and emergency responders at the local, regional, and State level prior to, during and after flood events.
- **Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project**: This floodplain management project is designed to increase the frequency of flooded habitat available for fish in the American and Sacramento Rivers; which is currently extremely limited due to past flood and water management actions. This project has a **High Degree of Certainty** of providing additional **Regional** benefits through implementation of a more sustainable flood and water management system for the region and enhanced riparian and upland habitat for birds and other wildlife species.
- **Lower Cosumnes River Floodplain Restoration Project**: This project, which is primarily a natural resource management project, offers a **High Degree of Certainty** of providing multiple **Regional** benefits through integrated floodplain management. The project will enhance floodplain ecosystems through replenishment of nutrients into the riverine ecosystem, restoration of fish habitat, improvements to endangered species habitat and protection of rare riparian forest habitat. It will also improve flood protection in the region and downstream on the Delta by adding 143 acres of additional floodplain to attenuate flood flows.

- **Sleepy Hollow Detention Basin Retrofit Project**: This project is investigating alternatives to transform a single-function flood control basin into a multi-functional water resource feature. It has a **High Degree of Certainty** of providing multiple benefits through **Local** integrated flood management. The project will investigate low impact development techniques for improving stormwater runoff quality, increasing habitat for birds and aquatic animals, enhancing recreational opportunities, improving groundwater recharge and augmenting the basin's flood storage volume.

Protect Surface Water and Groundwater Quality

- **Antelope Creek Water Efficiency and Flood Control Project**: The water efficiency component of the project will reduce sediment load in the Antelope and Caperton Canals, which convey raw water to the Sunset Water Treatment Plant and raw water customers and which also contains outlets to Antelope Creek and other natural waterways. The flood control component of the project will allow for natural treatment of temporarily-stored flood waters within the floodplain. Together, these two components achieve a **High Degree of Certainty** of protecting **Regional** surface water and groundwater quality.
- **SRCSD / SPA Recycled Water Project**: This water recycling project has a **High Degree of Certainty** of protecting **Regional** water quality by reducing the amount of effluent discharged by SRCSD into the Sacramento River. One of the drivers for SRCSD's water recycling program is to help with Clean Water Act compliance.
- **Coyle Avenue and Roseview Pump Stations and Treatment Systems Project**: Two new wells will be installed outside a region-wide cone of depression and regional contamination plume, providing a **High Degree of Certainty** of protecting groundwater quality for public health**.**
- **Sleepy Hollow Detention Basin Retrofit Project**: The proposed project includes integrated wetlands that will increase nutrient uptake of first-flush runoff pollutants through natural biological processes. This project has a **High Degree of Certainty** of protecting **Local** surface water and groundwater quality, as the biological treatment will result in a higher quality runoff entering the groundwater or being discharged into the existing Laguna Creek Tributary.

Improve Tribal Water and Natural Resources

This proposal does not directly include improvements to water and natural resources of California Native American Tribes. The United Auburn Indian Community, which owns lands within the region that are served by participating water purveyors, was contacted during outreach for projects and indicated that they do not have any current unmet priorities. They will continue to be involved in the IRWM update process. RWA recently identified the Wilton Rancheria and the recently-formed Buena Vista Band and will coordinate with these groups throughout the update of the existing IRWM Plan.

Ensure Equitable Distribution of Benefits

This proposal has a **High Degree of Certainty** of ensuring an equitable distribution of benefits within the **Region**. The projects in the proposal are distributed throughout the ARB and include projects brought forth by the region's water agencies, by other local agencies and municipalities, by non-profit environmental organizations and by other stakeholders. Moreover, as previously discussed, the Shasta Park Reservoir and Well Project and Regional Indoor and Outdoor Water Efficiency Project explicitly incorporated the water management needs of DACs into their project scopes.

Table 1: Program Preferences by Project

ARB Proposed Projects	Program Preferences									
	Include Regional Projects or Programs	Integrate Water Management Programs and Projects within a Recognized Hydrologic Region	Resolve Significant Water-Related Conflicts within or between Regions	Contribute to Objectives of the CALFED Bay-Delta Program[1]				Address Needs of DACs	Integrate Water Management with Land Use Planning	Address Statewide Priorities
				WS	WQ	ER	L			
City of Roseville ASR Program – Phase 2	✓		✓	✓						✓
Secret Ravine Fish Passage Improvement Project	✓				✓					✓
E.A. Fairbairn Groundwater Well Project	✓		✓	✓						✓
Shasta Park Reservoir and Well Project	✓		✓	✓				✓		✓
Antelope Creek Water Efficiency and Flood Control Project	✓	✓	✓	✓	✓				✓	✓
Regional Water Meter Retrofit Acceleration Project	✓		✓	✓						✓
Regional Indoor and Outdoor Water Efficiency Project	✓	✓	✓	✓				✓		✓
SRCSD/Sacramento Power Authority Recycled Water Project	✓	✓	✓	✓	✓				✓	✓
North Antelope Booster Pump Station Project	✓	✓	✓	✓						✓
Coyle Avenue and Roseview Pump Stations and Treatment Systems Project	✓		✓	✓						✓
Willow Hill Pipeline Rehabilitation Project	✓		✓	✓						✓
Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project	✓		✓			✓	✓			✓
Lower Cosumnes River Floodplain Restoration Project	✓					✓	✓			✓
OHWD / Rancho Murieta Groundwater Recharge Project	✓	✓	✓	✓		✓				✓
Sleepy Hollow Detention Basin Retrofit Project	✓			✓	✓	✓			✓	✓
Degree of Certainty Preference will be Met[2]	H	H	H	H	H	H	Low	H	H	H
Breadth and Magnitude to which Preference will be Met[3]	R	R	R to S	S				R to L	R to L	R to L

Footnotes:
1. WS – water supply; WQ – water quality; ER – ecosystem restoration; L – levee integrity
2. H – High
3. R – Region; S – State; L – Local

Table 2: Statewide Priorities by Project

ARB Proposed Projects	Statewide Priorities							
	Drought Preparedness	Use and Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water and Groundwater Quality	Improve Tribal Water and Natural Resources	Ensure Equitable Distribution of Benefits
City of Roseville ASR Program – Phase 2	✓		✓	✓				
Secret Ravine Fish Passage Improvement Project			✓	✓	✓			
E.A. Fairbairn Groundwater Well Project	✓		✓	✓				
Shasta Park Reservoir and Well Project	✓		✓	✓				✓
Antelope Creek Water Efficiency and Flood Control Project	✓	✓	✓	✓	✓	✓		
Regional Water Meter Retrofit Acceleration Project	✓	✓	✓	✓				
Regional Indoor and Outdoor Water Efficiency Project	✓	✓	✓	✓				✓
Sacramento Regional County Sanitation District / Sacramento Power Authority Recycled Water Project	✓	✓	✓	✓		✓		
North Antelope Booster Pump Station Project	✓		✓	✓				
Coyle Avenue and Roseview Pump Stations and Treatment Systems Project	✓		✓	✓		✓		
Willow Hill Pipeline Rehabilitation Project	✓	✓	✓					
Lower American River Mile 0.5 Aquatic Riparian Habitat Enhancement Project				✓	✓			
Lower Cosumnes River Floodplain Restoration Project				✓	✓			
OHWD / Rancho Murieta Groundwater Recharge Project	✓		✓	✓				
Sleepy Hollow Detention Basin Retrofit Project		✓	✓	✓	✓	✓		
Degree of Certainty Statewide Priority will be Met	High	High	High to Moderate	High	High	High	N/A	High
Breadth and Magnitude to which Statewide Priority will be Met	Region to State	Region to Local	Region to Local	Region	Region to Local	Region to Local	N/A	Region to Local